Amendments to the Specification

Please replace the paragraph beginning at page 2, line 30, with the following rewritten paragraph:

-- The method of the present invention prepares a pattern bonded and creped nonwoven web wherein the method ~~comprise~~ comprises

a) providing a nonwoven fibrous web having a first side and a second side, the nonwoven fibrous web comprises thermoplastic fibers;

b) transferring and adhering the nonwoven fibrous web to a first roll, such that the first side of the nonwoven fibrous web faces the first roll;

c) bonding the nonwoven fibrous web transferred and adhered to the first roll by contacting the nonwoven fibrous web with a second roll comprising a pattern, such that the nonwoven fibrous web is passed between a nip formed between the first roll and the second roll to form a bonded nonwoven web; and

d) removing the bonded nonwoven web from the first roll by creping the bonded nonwoven web from the first roll to produce a creped nonwoven web.

In a second method of the present invention, both sides of the nonwoven web can be creped. When both sides of the nonwoven web are creped, the process described above further comprises

e) transferring and adhering the second side of the nonwoven web to a third roll by contacting the second side of the nonwoven fibrous web with the third roll; and

f) removing the nonwoven fibrous web adhered to the third roll by creping the nonwoven fibrous web from the third roll with a creping blade to produce a creped thermoplastic nonwoven web which is creped on both the first and second sides. --

Please replace the paragraph beginning at page 3, line 17, with the following rewritten paragraph:

-- FIG 1 generally shows a schematic diagram of the apparatus used to practice the methods of the present invention.

~~FIG 2 shows~~ FIGS 2A – 2D show methods for applying an adhesive to the nonwoven web or the creping roll.

FIG 3 shows a schematic diagram of the apparatus used to crepe both sides of the nonwoven web. --

Please replace the paragraph beginning at page 7, line 15, with the following rewritten paragraph:

-- As used herein, the term "conjugate fibers" [[or]] refers to fibers or filaments which have been formed from at least two polymers extruded from separate extruders but spun together to form one fiber. Conjugate fibers are also sometimes referred to as multicomponent or bicomponent fibers filaments. The polymers are usually different from each other though conjugate fibers may be monocomponent fibers. The polymers are arranged in substantially constantly positioned distinct zones across the cross-section of the conjugate fibers or filaments and extend continuously along the length of the conjugate fibers or filaments. The configuration of such a conjugate fiber may be, for example, a sheath/core arrangement, wherein one polymer is surrounded by another, a side-by-side arrangement, a pie arrangement or an "islands-in-the-sea" arrangement. Conjugate fibers are taught in U.S. Pat. No. 5,108,820 to Kaneko et al., U.S. Pat. No. 5,336,552 to Strack et al., and U.S. Pat. No. 5,382,400 to Pike et al., the entire content of each is incorporated herein by reference. For two component fibers or filaments, the polymers may be present in ratios of 75/25, 50/50, 25/75 or any other desired ratios. --

Please replace the paragraph beginning at page 9, line 29, with the following rewritten paragraph:

-- In addition, multilayer laminates of nonwoven fibrous webs can also be used in the practice of the present invention. Multilayer laminates are known in the art and may be formed by a number of different techniques, including but not limited to, using an adhesive, needle punching, ultrasonic bonding, thermal calendering and through-air bonding. Examples of multilayer laminates include laminates wherein some of the layers are spunbond and some of the layers are meltblown, such as spunbond/meltblown/spunbond (SMS) laminate as disclosed in U.S. Patent 4,041,203 to Brock et al. and U.S. Patent No. 5,169,706 to Collier et al., each hereby incorporated in their entirety. Generally, the SMS is prepared by depositing a spunbond layer onto a moving conveyor belt or forming wire, then a meltblown layer is deposited onto the spunbond layer and a second spunbond layer is deposited onto the meltblown layer. Once all of the layers are deposited, the laminate is bonded in a manner

described above. Other laminates include a spunbond/spunbond laminate made by sequentially depositing spunbond layers onto a moving conveyor belt or forming wire and bonding the resulting laminate. As an alternative process, laminates can be prepared by first preparing each of the layers individually and collecting the layer on rolls. The rolls are then loaded onto another machine which unrolls each of the layers and laminates the layers together using a bonding method described above. When a laminate is prepared by the process of the present invention, [[the]] some or all of the layers should be unbonded. The bonding of the layers of the laminate in the present invention is performed while the laminate is adhered to the first roll and the bond pattern of the second roll in imparted to the multilayer laminate. --

Please replace the paragraph beginning at page 12, line 1, with the following rewritten paragraph:

-- In order to adhere the nonwoven fibrous web 10 to the creping roll 12, a bonding agent may be ~~use~~ used. The bonding agent may function through external bonding when ~~may be~~ applied to the nonwoven fibrous web 10 or applied onto the creping roll 12. Examples of bonding agents include, but are not limited to, adhesives capable of holding the nonwoven fibrous web 10 to the creping roll 12. The external bonding agents which can be used in the present invention include an aqueous based adhesive, a hot melt adhesive, or a solvent based adhesive. --

Please replace the paragraph beginning at page 12, line 26, with the following rewritten paragraph:

-- Hot melt adhesives are generally heated to a temperature at least to the melting point of the hot melt adhesive. Generally, the melting point of hot melt adhesives is above ambient temperature and is often in the range of about 60°C to about 200°C. Many different commercially available hot melt adhesive compositions can be used in the present invention. It will be apparent to those skilled in the art which hot melt adhesives can be used in the creping process of the present invention. It is preferred, although not required, that the hot melt adhesive is prepared from hydrophobic materials. When a hot melt adhesive is hydrophobic, the resulting creped nonwoven web will tend to have hydrophobic properties. It is also preferred that the hot melt adhesive has a relativity low melting point, generally in the range of about 60°C to about 125°C, since higher melting point hot melt adhesives may detrimentally affect the thermoplastic nonwoven fibrous web, in particular, melt the fibers of the nonwoven fibrous web. Examples of preferred hot melt adhesives include, but are not limited to, styrene/rubber block copolymers, polybutylene, EVA, polyester, polyamide, or olefin based adhesives.

Commercial examples of hot melt adhesives usable in the present include, but are not limited to, RT2115, RT 2130, RT 2315, RT2330 and RT 2730 available from Huntsman Polymer Corporation of Odessa, Texas; H2525A, and H2096 available from Bostick-Findley Corp of Wauwatosa, ~~Washington~~ Wisconsin; NS5610 and NS34-2950 available from National Starch and Chemical Company of Bridgewater, New Jersey; and Shell 8911 available from Shell Chemical, Houston Texas. --

Please replace the paragraph beginning at page 13, line 12, with the following rewritten paragraph:

-- As an alternative, an internal bonding agent, also called an "adhesive additive", can be added to polymers used to produce the fibers of the nonwoven fibrous web. The adhesive additive can be any additive which will increase the adhesion of the nonwoven fibrous web to the creping roll. Examples of adhesive additives include, but are not limited to, tackifying resins, pressure sensitive adhesives and the like. Any tackifying resin or pressure sensitive adhesive can be used. The only requirements for the adhesive additive is that the adhesive additive is compatible with the thermoplastic polymer and the adhesive additive can withstand the high processing (e.g., extrusion) temperatures. The term "compatible" is understood by those skilled in the art as to mean that the components of the mixture do not phase separate to any great degree once mixed. Further, the adhesive additive also needs to be compatible with other additives, such as processing aids, fillers and the like, which may be present in the thermoplastic polymeric composition used to prepare the fibers of the nonwoven fibrous web. As an alternative, however, the adhesive additive may be semi-compatible at the use temperature. When semi-compatible, the adhesive additive may be ~~force~~ forced to the polymer surface where it may be most effective. Ways to force the additive to the surface include heating the formed fibers. This heating may be supplied by any means known to those skilled in the art, including heating the creping roll and using an external heat source. --

Please replace the paragraph beginning at page 14, line 22, with the following rewritten paragraph:

-- In addition, the adhesive additive may be polymers which are inherently tacky, such as polybutene, polybutylene and the like. Again, it is important to note that the adhesive additive should be compatible, or at least semi-compatible with the thermoplastic polymer used to prepare the fiber and/or filaments of the nonwoven fibrous web. Commercial examples of adhesive additives include, but are

not limited to Shell 8911, Shell DP 8611 and Shell SP 8510, ~~both~~ which are available from Shell Chemical, Houston, Texas. --

Please replace the paragraph beginning at page 17, line 9, with the following rewritten paragraph:

-- In a similar manner to the method of applying the hot melt adhesive to the nonwoven web using an offset roll, FIG 2D demonstrates the application of the external adhesive to the creping roll using an offset roller. A rotogravure applicator roller 212 is in communication with the reservoir 218 containing the adhesive 220 and carries the adhesive 220 upward onto the surface of the roller 212 as it rotates. The rotogravure roller 212 contacts [[and]] offset roll 213 and transfers the adhesive to the offset roll 213. The offset roll 213 then contacts the creping roll 12, transferring the adhesive to the creping roll. A doctor blade 206 is provided to wipe or scrape off excess adhesive and to ensure that the adhesive 220 is uniformly covered on the rotogravure roller 212, which in turn ensures a uniformly covering of the adhesive of the offset roll 213 and the creping roll 12. --

Please replace the paragraph beginning at page 17, line 30, with the following rewritten paragraph:

-- In the creping process of the present invention, the nonwoven fibrous web is at least partially coated on one side with an adhesive, so that about 5-100%, preferably about 10-70%, and more preferably about 25-50% of the total surface area on one side ~~is coated~~ of the nonwoven web is coated. Hence, about 0-95%, preferably about 30-90% and more preferably about 75-50% of the area of the nonwoven web is uncoated. In the alternative, about 5-100%, preferably about 10-70%, and more preferably about 25-50% of the total surface area of the creping roll is coated. This translates to about about 0-95%, preferably about 30-90% and more preferably about 75-50% of the area of the creping roll is uncoated. The thickness of the adhesive on the nonwoven web or creping roll determines the amount of adhesive which will be present on the nonwoven web. The weight amount of the adhesive on the nonwoven is called the "add-on". Desirably, the amount of the add-on adhesive should be in the range of about 0.1% to about 10% by weight, based on the weight of the nonwoven web. Preferably, the amount of the adhesive add-on should be in the range of about 1% to about 3.5 % by weight, based on the weight of the nonwoven web. --

Please replace the paragraph beginning at page 18, line 25, with the following rewritten paragraph:

-- The bonding roll can have any bond pattern known to those skilled in the art. The actual bond pattern is not critical to the present invention. Examples of bond patterns include, but are not limited to, point bonded or point unbonded (PUB) bond patterns. Generally the bonding roll is heated to a temperature sufficiently high enough to melt the fibers of the nonwoven fibrous web. The actual temperature [[in]] to which the bonding roll is heated depends on the polymers used to make the nonwoven fibrous web. For most thermoplastic polymers, the bonding roll is heated in the range of about 200°F to about 500°F. In addition, the bonding roll 16 also exerts pressure on the nonwoven fibrous web. Pressure up to about 3000 pounds per linear inch, or more may be used. Typically pressures are in the about 500 pli to about 2000 pli range. Other methods of bonding such as ultrasonic bonding can be used in the present invention. --

Please replace the paragraph beginning at page 19, line 19, with the following rewritten paragraph:

-- The creped nonwoven web 18 is then advance by pull rolls 24 into a winder (not shown) to ~~from~~ form a wound roll of the creped nonwoven web 22. Once rolled, the creped nonwoven web can be transferred to another location and further processed to form final products containing the creped nonwoven web. In the alternative, although not shown in FIG 1, the creped nonwoven web 18 could be further processed in-line to form a final product from the creped nonwoven web. An example of further processing includes, but is not limited to creping the second side 21 of the nonwoven web to form a nonwoven web which is creped on both sides. --

Please replace the paragraph beginning at page 19, line 27, with the following rewritten paragraph:

-- In the process of the present invention, it is preferred that the bonding roll has a regular point bond pattern. Using the point bond pattern results in a creped nonwoven web having regular looping in the unbonded areas, as described above. The resulting creped nonwoven web has fairly regular creping pattern and lower bulk and higher permeability than the uncreped nonwoven web or a nonwoven web which is bonded and creped in a two step process, i.e. a process where one set of

bonding rolls is used to bond the nonwoven fibrous web and a separate creping roll is used to crepe the nonwoven web. The creped nonwoven web prepared by the method of the present invention is a looped material having a fairly low bulk density and ~~fairy~~ fairly large void volumes. --

Please replace the paragraph beginning at page 20, line 9, with the following rewritten paragraph:

-- The process described above only crepes one side of the nonwoven web being creped. When both sides of the nonwoven fibrous web are creped, the process of the first method further includes

e) transferring and adhering the second side of the nonwoven web to a third roll by contacting the second side of the nonwoven fibrous web with the third roll; and

f) removing the nonwoven web adhered to the third roll by creping the nonwoven fibrous web from third roll with a creping blade to produce a creped thermoplastic nonwoven web which is creped on both the first and second sides. --

Please replace the paragraph beginning at page 21, line 20, with the following rewritten paragraph:

-- The twice creped nonwoven web 38 is then ~~advance~~ advanced by pull rolls 24 into a winder (not shown) to ~~from~~ form a wound roll of the creped nonwoven web 42. Once rolled, the creped nonwoven web 38 can be transferred to another location and further processed to form final products containing the creped nonwoven web. In the alternative, although not shown in the figures, the twice creped nonwoven web 38 could be further processed in-line to form a final product from the twice creped nonwoven web. --

Please replace the paragraph beginning at page 23, line 6, with the following rewritten paragraph:

-- Example 2

Using the process shown in Figure 1, a spunbond having a basis weight of about 0.4 osy and about 3.5 denier fiber produced from a mixture of 95 parts by weight polypropylene (Exxon 3155) and

5 parts by weight of an adhesive additive Shell 8911 (ethylene/butylene copolymer) was prepared. The unbonded fibers were supplied directly from the nonwoven web forming wire to the process shown in Figure 1, except the press roll 20 was not utilized. The nonwoven fibrous web was brought into contact with the creping roll. The creping roll was heated to a surface temperature of about 280°F. The nonwoven fibrous web was passed through a nip created by the creping roll and a H&P pattern bond roll having 200 pins per square inch and a 26% bond area. The pattern bond roll was heated to a temperature of about 310 °F and applied a pressure of about 800- 1100 pounds per linear inch to the nonwoven fibrous web, thereby bonding the fibers of the nonwoven fibrous web and adhering the nonwoven fibrous web to the creping roll in the pattern of the bonding roll. A spring steel doctor blade applied about 15 pounds per linear inch to remove the bonded nonwoven web from the creping roll. The nonwoven fibrous web was successfully bonded and creped on the creping surface, resulting in a creped nonwoven web <u>which</u> had a uniform creped structure in the pattern of the bond roll. --

Please replace the paragraph beginning at page 23, line 25, with the following rewritten paragraph:

-- <u>Example 3</u>

Example 2 was repeated except a wire weave pattern bond roll having 302 pin per square inch and a 17 % bond area was used instead of the H&P bond roll. Again, the nonwoven fibrous web was successfully bonded and creped on the creping surface, resulting in a creped nonwoven web <u>which</u> had a uniform creped structure in the pattern of the bond roll. --

Please replace the paragraph beginning at page 23, line 31, with the following rewritten paragraph:

-- <u>Example 4</u>

Using the process shown in Figure 1, a spunbond having a basis weight of about 0.4 osy and about 3.5 denier fiber produced from a mixture of 90 parts by weight polypropylene (Exxon 3155) and 10 parts by weight of an adhesive additive Shell 8911 (ethylene/butylene copolymer) was prepared. The unbonded fibers were supplied directly from the nonwoven web forming wire to the process shown

in Figure 1, except the press roll 20 was not utilized. The nonwoven fibrous web was brought into contact with the creping roll. The creping roll was heated to a surface temperature of about 255 °F. The nonwoven fibrous web was passed through a nip created by the creping roll and a H&P pattern bond roll having 200 pins per square inch and a 26% bond area. The pattern bond roll was heated to a temperature of about 310 °F and applied a pressure of about 800- 1100 pounds per linear inch to the nonwoven fibrous web, thereby bonding the fibers of the nonwoven fibrous web and adhering the nonwoven fibrous web to the creping roll in the pattern of the bonding roll. A spring steel doctor blade applied about 15 pounds per linear inch to remove the bonded nonwoven web from the creping roll. The nonwoven fibrous web was successfully bonded and creped on the creping surface, resulting in a creped nonwoven web <u>which</u> had a uniform creped structure in the pattern of the bond roll. --

Please replace the paragraph beginning at page 24, line 16, with the following rewritten paragraph:

-- <u>Example 5</u>

Example 4 was repeated except a wire weave pattern bond roll having 302 pin per square inch and a 17 % bond area was used instead of the H&P bond roll. Again, the nonwoven fibrous web was successfully bonded and creped on the creping surface, resulting in a creped nonwoven web <u>which</u> had a uniform creped structure in the pattern of the bond roll. --

Please replace the Abstract with the following rewritten Abstract:

-- The present invention provides a one <u>or two</u> step method for bonding and creping <u>or double creping</u> a nonwoven web. In the method of the present invention, a nonwoven web is adhered to a creping roll and bonded while on the creping roll. The bonding of the nonwoven adheres the nonwoven to the creping roll in a pattern of the bonding roll. Once creped from the creping roll, the resulting nonwoven web is creped in the pattern of the bonding roll. The creped nonwoven webs of the present invention are useful in a wide variety of application including as wipes, liners, transfer or surge layers, outercovers, other fluid handling materials and looped fastener materials. --